

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

- 1.-6. (Cancelled).
7. (Currently amended) A micro array, comprising ~~consisting essentially of~~ a stimutable phosphor layer provided on a substrate, wherein affixed ~~on or~~ within said phosphor layer is an array of a series of selected biomolecules, wherein the location of each selected biomolecule in said series, ~~on or~~ within said phosphor layer, is known.
8. (Currently amended) A micro array, comprising ~~consisting essentially of~~ a stimutable phosphor layer provided on a substrate and a protective layer provided on said stimutable phosphor layer, wherein affixed ~~on or~~ within said protective layer is an array of a series of selected biomolecules, wherein the location of each selected biomolecule in said series, ~~on or~~ within said protective layer, is known.
9. (Previously presented) The micro array of claim 8, wherein said protective layer is a poly-L-lysine protective layer.
10. (Previously presented) The micro array of claims 7 or 8, wherein said biomolecule is an oligonucleotide.
11. (Currently amended) A method for analyzing a biomolecule, comprising the steps of:

- (i) preparing a micro array, wherein said micro array comprises ~~consists essentially of~~ a stimutable phosphor layer provided on a substrate, wherein affixed ~~on or~~ within said phosphor layer is an array of a series of selected biomolecules, wherein the location of each selected biomolecule in said series, ~~on or~~ within said phosphor layer, is known,
- (ii) contacting the micro array of step (i) with a labeled biomolecule, to cause the labeled biomolecule to be bound to one or more members of the series of selected biomolecules, wherein said labeled biomolecule is labeled with an energy generating substance,
- (iii) exposing the resulting micro array of step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimutable phosphor layer,
- (iv) placing the micro array of step (iii) in a dark place to thereby cause the stimutable phosphor layer to store energy released from the energy generating substance,
- (v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimutable phosphor layer to emit light in proportion to the amount of energy stored therein,
- (vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect the one or more members of the series of selected biomolecules which are bound to the labeled molecule, and
- (vii) determining the identity of the one or more members of the series of selected biomolecules bound to the labeled biomolecule by comparing the location of the detected signal in the micro array to the location of said one or more members of the series of selected biomolecules based on previously stored positional information.

12. (Currently amended) A method for analyzing a biomolecule, comprising the steps of:

- (i) preparing a micro array, wherein said micro array comprises ~~consists essentially of~~ a stimutable phosphor layer provided on a substrate and a protective layer provided on said phosphor layer, wherein affixed ~~on or~~ within said protective layer is an array of a series of selected biomolecules, wherein the location of each selected biomolecule in said series, ~~on or~~ within said protective layer, is known,
- (ii) contacting the micro array of step (i) with a labeled biomolecule, to cause the labeled biomolecule to be bound to one or more members of the series of selected biomolecules, wherein said labeled biomolecule is labeled with an energy generating substance,
- (iii) exposing the resulting micro array of step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimutable phosphor layer,
- (iv) placing the micro array of step (iii) in a dark place to thereby cause the stimutable phosphor layer to store energy released from the energy generating substance,
- (v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimutable phosphor layer to emit light in proportion to the amount of energy stored therein,
- (vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect the one or more members of the series of selected biomolecules which are bound to the labeled molecule, and
- (vii) determining the identity of the one or more members of the series of selected biomolecules bound to the labeled biomolecule by comparing the location of the detected signal in the micro array to the location of said one or more members of the series of selected biomolecules based on previously stored positional information.

13. (Currently amended) A micro array, comprising ~~consisting essentially of~~ a stimutable phosphor layer provided on a substrate, wherein affixed ~~on or~~ within said phosphor layer is an array of a series of selected detecting bodies, wherein the location of each selected detecting body in said series, ~~on or~~ within said phosphor layer, is known.

14. (Currently amended) A micro array, comprising ~~consisting essentially of~~ a stimutable phosphor layer provided on a substrate and a protective layer provided on said stimutable phosphor layer, wherein affixed ~~on or~~ within said protective layer is an array of a series of selected detecting bodies, wherein the location of each selected detecting body in said series, ~~on or~~ within said protective layer, is known.

15. (Previously presented) The micro array of any one of claims 7, 8, 13 or 14, wherein said substrate is polyester.

16. (Currently amended) A method for analyzing a sample, comprising the steps of:

(i) preparing a micro array, wherein said micro array comprises ~~consists essentially of~~ a stimutable phosphor layer provided on a substrate, wherein affixed ~~on or~~ within said phosphor layer is an array of a series of selected detecting bodies, wherein the location of each selected detecting body in said series, ~~on or~~ within said phosphor layer, is known,

(ii) contacting the micro array of step (i) with a sample, wherein said sample comprises a plurality of constituents which are labeled with an energy generating substance, to cause a constituent in said sample to be bound to one or more members of the series of selected detecting bodies,

(iii) exposing the resulting micro array from step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimutable phosphor layer,

(iv) placing the micro array of step (iii) in a dark place to thereby cause the stimuable phosphor layer to store energy release from the energy generating substance,

(v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimuable phosphor layer to emit light in proportion to the amount of energy stored therein,

(vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect a labeled constituent of the sample which is bound to a detecting body, and

(vii) determining the identity of a labeled constituent of the sample by comparing the location of the detected signal in the micro array to the location of said one or more members of the selected detecting bodies based on previously stored positional information.

17. (Currently amended) A method for analyzing a sample, comprising the steps of:

(i) preparing a micro array, wherein said micro array comprises ~~consists essentially of~~ a stimuable phosphor layer provided on a substrate and a protective layer provided on said phosphor layer, wherein affixed ~~on or~~ within said protective layer is an array of a series of selected detecting bodies, wherein the location of each selected detecting body in said series, ~~on or~~ within said protective layer, is known ,

(ii) contacting the micro array of step (i) with a sample, wherein said sample comprises a plurality of constituents which are labeled with an energy generating substance, to cause a constituent in said sample to be bound to one or more members of the series of selected detecting bodies,

(iii) exposing the resulting micro array from step (ii) to visible light to thereby induce the release of energy from phosphor molecules in the stimuable phosphor layer,

(iv) placing the micro array of step (iii) in a dark place to thereby cause the stimuable phosphor layer to store energy release from the energy generating substance,

(v) exposing the resulting micro array of step (iv) to stimulating rays which cause the stimuable phosphor layer to emit light in proportion to the amount of energy stored therein,

(vi) photoelectrically detecting the resulting emitted light from step (v) as a signal, so as to detect a labeled constituent of the sample which is bound to a detecting body, and

(vii) determining the identity of a labeled constituent of the sample by comparing the location of the detected signal in the micro array to the location of said one or more members of the selected detecting bodies based on previously stored positional information.

18. (Previously presented) The method of any one of claims 11, 12, 16 and 17, wherein said substrate is polyester.

19. (Previously presented) The method of claim 11 or 12, wherein said biomolecules are oligonucleotides.

20. (Previously presented) The method of claim 12, wherein said protective layer is a poly-L-lysine protective layer.